IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

In re Application of:	§	Group Art Unit: 2157
	§	
Bernard A. Traversat, et al.	§	Examiner: Nano, Sargon N.
	§	
	§	Atty. Dkt. No.: 5681-07100
	§	
Serial No.: 10/055,097	§	
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	§	
Filed: January 22, 2002	§	
	§	
For: RELAY PEERS FOR EXTENDING PEER AVAILABILITY IN A PEER-TO-PEER NETWORKING ENVIRONMENT	§	

APPEAL BRIEF

Mail Stop Appeal Brief - Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir/Madam:

Further to the Notice of Appeal filed August 25, 2008, Appellants present this Appeal Brief. Appellants respectfully request that the Board of Patent Appeals and Interferences consider this appeal.

I. REAL PARTY IN INTEREST

As evidenced by the assignment recorded at Reel/Frame 012545/0545, the subject application is owned by Sun Microsystems, Inc., a corporation organized and existing under and by virtue of the laws of the State of Delaware, and now having its principal place of business at 4150 Network Circle, Santa Clara, CA 95054.

II. RELATED APPEALS AND INTERFERENCES

No other appeals, interferences or judicial proceedings are known which would be related to, directly affect or be directly affected by or have a bearing on the Board's decision in this appeal.

III. STATUS OF CLAIMS

Claims 1-62 stand finally rejected. The rejection of claims 1-62 is being appealed. A copy of claims 1-62 is included in the Claims Appendix herein below.

IV. STATUS OF AMENDMENTS

No amendments have been submitted subsequent to the final rejection.

V. SUMMARY OF CLAIMED SUBJECT MATTER

Independent claim 1 is directed toward a peer computing system including a plurality of peer nodes operable to couple to a network. The plurality of peer nodes are configured to implement a peer-to-peer environment on the network according to a peer-to-peer platform that includes one or more peer-to-peer platform protocols for enabling the peer nodes to discover each other, communicate with each other, and cooperate with each other to form peer groups and share content in the peer-to-peer environment, and each of the plurality of peer nodes is a host of content in the peer-to-peer environment. (*See, e.g.,* FIGs. 1A and 1B, including various peer devices (104) coupled to a network (106); FIG. 2, including a conceptual representation of several layers of a peer-to-peer platform software architecture, a core layer 120 which includes protocols for implementing peer groups 122, discovery 124, communication 126, and monitoring 128, a service layer 140 and an application layer 150; p. 4, lines 21-26; p. 17, lines 15-26; and p. 26, lines 3-8 and 11-30.)

The plurality of peer nodes is partitioned by a mechanism on the network into a set of one or more peer nodes inside the mechanism and a set of one or more peer nodes outside the mechanism. For example, a set of peer nodes may be located on either side of a firewall, or a Network Address Translation (NAT) gateway, in some embodiments. The peer nodes on opposite sides of the partitioning mechanism cannot communicate directly with each other on the network. (*See, e.g.,* FIG. 29, firewall 248; p. 105, line 30 – p. 106, line 3.)

One of the peer nodes is a relay peer node that can be coupled to the network outside the partitioning mechanism. The relay peer node is operable to receive a message from a peer node outside the mechanism that is intended for a peer node inside the mechanism and to relay the message to the peer node inside the mechanism. (*See, e.g.*, page 8, lines 3-7 and 19-27; page 106, lines 10-26; and FIG. 29.)

Independent claim 11 is also directed toward a peer computing system that includes a plurality of peer nodes configured to couple to a network and to implement a peer-to-peer environment, in which each of the plurality of peer nodes is a host of content in the peer-to-peer environment. (*See, e.g.,* FIGs. 1A and 1B, including various peer devices (104) coupled to a network (106); FIG. 2, including a conceptual representation of several layers of a peer-to-peer platform software architecture, a core layer 120 which includes protocols for implementing peer groups 122, discovery 124, communication 126, and monitoring 128, a service layer 140 and an application layer 150; p. 4, lines 21-26; p. 17, lines 15-26; and p. 26, lines 3-8 and 11-30.)

The system includes a partitioning mechanism. (*See, e.g.,* FIG. 29, firewall 248; p. 105, line 30 – p. 106, line 3.)

The peer nodes include one or more relay peer nodes operable to couple to the network outside the mechanism. (*See, e.g.*, page 8, lines 3-7 and 19-27; page 106, lines 10-26; and FIG. 29.)

Each of the peer nodes inside the mechanism is operable to publish an advertisement on the one or more relay peer nodes. (*See, e.g.,* p. 107, lines 9-10.)

Each of the peer nodes outside the partitioning mechanism is operable to discover the advertisements for the peer nodes inside the partitioning mechanism published on the one or more relay peer nodes. (*See, e.g.*, page 8, lines 27-30; page 21, lines 8-11; page 107, lines 10-12; and FIG. 30.)

Independent claim 20 is directed toward a peer node including a network interface for coupling to a network and a memory including program instructions executable within the peer node to discover other peer nodes on the network, communicate with other peer nodes on the network, cooperate with other peer nodes on the network, and host shared content on the network, according to one or more peer-to-peer platform

protocols. (*See, e.g.,* FIG. 2; p. 4, lines 21-26; p. 8, lines 9-12; p. 17, line 5 – p. 18, line 2; and p. 26, lines 3-8 and 11-30.)

The program instructions are further executable within the peer node to receive a message from a source peer node on the network intended for a destination peer node, wherein the source peer node and the destination peer node cannot communicate directly with each other on the network, and relay the message to a destination peer node, according to a peer-to-peer platform. (*See, e.g.*, FIGs. 1A and 1B; p. 4, lines 21-26; p. 8 lines 3-7, 12-16, and 19-27; page 106, lines 10-26; and FIG. 29.)

Independent claim 30 is directed toward a peer computing system including a plurality of peer nodes operable to couple to a network and means for the plurality of peer nodes to discover each other, communicate with each other, and cooperate with each other to form peer groups and share content in a peer-to-peer environment on the network, as described above. (*See, e.g.*, p. 17, lines 25-30; and FIGs. 1A, 1B, peer devices 104A, which may include processors or devices such as servers, PCs, supercomputers, PDAs, or phones. These processors, or devices including processors, execute software configured to implement the peer-to-peer platform software architecture illustrated in FIG. 2, including a core layer 120 which includes protocols for implementing peer groups 122, discovery 124, communication 126, and monitoring 128, a service layer 140 and an application layer 150; p. 4, lines 21-26; p. 8 lines 9-16; p. 17, line 5 – p. 18, line 2; and p. 26, lines 3-8 and 11-30.)

The computing system includes means for partitioning the plurality of peer nodes on the network into a set of one or more peer nodes inside the partition and a set of one or more peer nodes outside the partition, in which peer nodes on opposite sides of the partition cannot communicate directly with each other on the network. (*See, e.g.,* FIG. 29, firewall 248; p. 105, line 30 – p. 106, line 3.)

The computing system includes means for the peer nodes inside the partition to advertise themselves outside the partition. (*See, e.g.,* FIG. 29, relay peer 244; and p. 106, lines 22-23.)

The computing system also includes means for the peer nodes outside the mechanism to discover the advertised peer nodes inside the partition. (*See, e.g.,* FIG. 29, relay peer 244; page 8, lines 3-7 and 19-27; page 106, lines 23-25.)

The means for the peer nodes inside the partition to advertise themselves comprises a relay peer node outside the partition, wherein the relay peer node comprises means for publishing advertisements for the peer nodes inside the partition, and wherein the relay peer node is one of the plurality of peer nodes. (*See, e.g.,* FIG. 29, firewall 248 and relay peer 244; p. 106, lines 22-26.)

Dependent claim 33 is directed to the peer computing system as recited in claim 30, which further includes means for relaying messages between the peer nodes outside the mechanism and the peer nodes inside the mechanism. (*See, e.g.*, FIG. 29, relay peer 244; p. 8, lines 12-15; and p. 104, lines 23-27.)

Dependent claim 34 is directed to the peer computing system as recited in claim 33, where the means for relaying messages includes a relay peer node. (*See, e.g.*, FIG. 29, relay peer 244; p. 8, lines 12-17; and p. 104, lines 23-29.)

The relay peer node includes means for caching route information describing one or more routes to peer nodes on the network. (*See, e.g.*, p. 107, lines 14-17, routing tables.)

Dependent claim 35 is directed to the peer computing system as recited in claim 34, where to relay the messages between the peer nodes, the peer computing system includes means for using the cached route information to route the messages to the peer nodes inside the mechanism. (*See, e.g.*, FIG. 29, relay peer 244, which includes routing tables, p. 107, lines 14-17; p. 105, lines 7-10; and p. 106, lines 18-26.)

Dependent claim 36 is directed to the peer computing system as recited in claim 33, where the message includes route information, and where, to relay the messages between the peer nodes, the relay peer includes means for using the route information included in the message to route the messages to the peer nodes inside the mechanism. (*See, e.g.,* FIG. 29, relay peer 244, which is configured to add route information to messages, p. 110, line 20-29; and to use the route information to route messages, p. 111, lines 8-11; and p. 105, lines 7-10.)

Independent claim 37 is directed toward a method, including a plurality of peer nodes implementing a peer-to-peer environment on a network according to a peer-to-peer platform, in which the peer-to-peer platform includes one or more peer-to-peer platform protocols for enabling the plurality of peer nodes to discover each other, communicate with each other, and cooperate with each other to form peer groups and share content in the peer-to-peer environment, and each of the plurality of peer nodes is a host of content in the peer-to-peer environment. (*See, e.g.*, FIGs. 1A, 1B, and 2; p. 4, lines 21-26; p. 8 lines 9-16; p. 17, line 5 – p. 18, line 2; and p. 26, lines 3-8 and 11-30.)

The method also includes one of the plurality of peer nodes inside a partitioning mechanism on the network publishing an advertisement on a relay peer node outside the partitioning mechanism, where peer nodes inside the partitioning mechanism cannot directly communicate with peer nodes outside the partitioning mechanism, and where the relay peer node is one of the plurality of peer nodes. (*See, e.g.,* FIG. 30, element 502; and p. 106, lines 18-23.)

The method includes one of the plurality of peer nodes outside the partitioning mechanism discovering the advertisement to the peer node inside the partitioning mechanism on the relay peer node and sending a message intended for the peer node inside the partitioning mechanism to the relay peer node. (*See, e.g.,* FIG. 30, elements 504 and 506; and p. 106, lines 23-26.)

The method also includes the relay peer node relaying the message to the peer node inside the partitioning mechanism. (*See, e.g.,* FIG. 30, element 506; and p. 106, lines 25-26.)

Independent claim 45 is directed toward a method including a plurality of peer nodes implementing a peer-to-peer environment on a network according to a peer-to-peer platform, in which the peer-to-peer platform includes one or more peer-to-peer platform protocols for enabling the plurality of peer nodes to discover each other, communicate with each other, and cooperate with each other to form peer groups and share content in the peer-to-peer environment, and each of the plurality of peer nodes is a host of content in the peer-to-peer environment. (*See, e.g.*, FIGs. 1A, 1B, and 2; p. 4, lines 21-26; p. 8 lines 9-16; p. 17, line 5 – p. 18, line 2; and p. 26, lines 3-8 and 11-30.)

The method includes one or more of the plurality of peer nodes being relay peer nodes. (*See, e.g.*, page 8, lines 3-7 and 19-27; page 106, lines 10-26; and FIG. 29.)

The method also includes one of the relay peer nodes caching route information including an ordered sequence of peer identifiers configured for use in routing a message to a destination peer. (*See, e.g.,* p. 9, lines 22-25; and p. 10, lines 5-17.)

Independent claim 51 is directed toward a computer-readable storage medium storing software instructions computer-executable to implement a plurality of peer nodes

implementing a peer-to-peer environment on a network according to a peer-to-peer platform, in which the peer-to-peer platform includes one or more peer-to-peer platform protocols for enabling the plurality of peer nodes to discover each other, communicate with each other, and cooperate with each other to form peer groups and share content in the peer-to-peer environment, and each of the plurality of peer nodes is a host of content in the peer-to-peer environment. (*See, e.g.,* FIGs. 1A and 1B, including various peer devices (104) coupled to a network (106); FIG. 2, including a conceptual representation of several layers of a peer-to-peer platform software architecture, a core layer 120 which includes protocols for implementing peer groups 122, discovery 124, communication 126, and monitoring 128, a service layer 140 and an application layer 150; p. 4, lines 21-26; p. 17, lines 15-26; p. 26, lines 3-8 and 11-30; and p. 129, lines 10-15.)

The software instructions are further executable to implement one of the plurality of peer nodes inside a partitioning mechanism on the network publishing an advertisement on a relay peer node outside the partitioning mechanism, where peer nodes inside the partitioning mechanism cannot directly communicate with peer nodes outside the partitioning mechanism, and where the relay peer node is one of the plurality of peer nodes. (*See, e.g.,* FIG. 29, firewall 248; p. 105, line 30 – p. 106, line 10.)

The software instructions are also executable to implement one of the plurality of peer nodes outside the partitioning mechanism discovering the advertisement to the peer node inside the partitioning mechanism on the relay peer node. (*See, e.g.*, page 8, lines 27-30; page 21, lines 8-11; page 107, lines 10-12; and FIG. 30, element 504.)

The software instructions are also executable to implement the peer node outside the partitioning mechanism sending a message intended for the peer node inside the partitioning mechanism to the relay peer node and the relay peer node relaying the message to the peer node inside the partitioning mechanism. (*See, e.g.,* FIG. 30, element 506; and p. 106, lines 23-26.)

Independent claim 57 is directed toward a computer-readable storage medium storing software instructions computer-executable to implement a plurality of peer nodes implementing a peer-to-peer environment on a network according to a peer-to-peer platform, in which the peer-to-peer platform includes one or more peer-to-peer platform protocols for enabling the plurality of peer nodes to discover each other, communicate with each other, and cooperate with each other to form peer groups and share content in the peer-to-peer environment, and each of the plurality of peer nodes is a host of content in the peer-to-peer environment. (*See, e.g.,* FIGs. 1A and 1B, including various peer devices (104) coupled to a network (106); FIG. 2, including a conceptual representation of several layers of a peer-to-peer platform software architecture, a core layer 120 which includes protocols for implementing peer groups 122, discovery 124, communication 126, and monitoring 128, a service layer 140 and an application layer 150; p. 4, lines 21-26; p. 17, lines 15-26; p. 26, lines 3-8 and 11-30; and p. 129, lines 10-15.)

The software instructions are executable to implement one or more of the plurality of peer nodes implementing a relay service in accordance with the peer-to-peer platform to perform as relay peer nodes. (*See, e.g.*, page 8, lines 3-27; page 106, lines 10-26; and FIG. 29.)

The software instructions are further executable to implement one of the relay peer nodes caching route information describing one or more routes to other peer nodes on the network. The route information is configured for use in routing messages between peer nodes in the peer-to-peer environment, and includes ordered sequences of peer identifiers configured for use in routing messages to destination peer nodes. (*See, e.g.,* p. 9, lines 22-25; and p. 10, lines 5-17.)

The summary above describes various examples and embodiments of the claimed subject matter; however, the claims are not necessarily limited to any of these examples and embodiments. The claims should be interpreted based on the wording of the respective claims.

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

Claims 1-62 stand finally rejected under 35 U.S.C. § 103(a) as being unpatentable over Borella et al. (U.S. Patent 6,269,099) (hereinafter "Borella") in view of Bommareddy et al. (U.S. Patent 6,880,089) (hereinafter "Bommareddy").

VII. ARGUMENT

The Examiner rejected claims 1-62 under 35 U.S.C. § 103(a) as being unpatentable over Borella in view of Bommareddy. Appellants traverse the rejection of claims 1-62 for at least the following reasons. Different groups of claims are addressed under their respective subheadings.

Claims 1, 3, 4, 20, 27. 28, and 29:

1. The cited art clearly fails to teach or suggest *a plurality of peer nodes operable to couple to a network, wherein the plurality of peer nodes are configured to implement a peer-to-peer environment on the network according to a peer-to-peer platform comprising one or more peer-to-peer platform protocols for enabling the plurality of peer nodes to discover each other, communicate with each other, and cooperate with each other to form peer groups and share content in the peer-to-peer environment, and wherein each of the plurality of peer nodes is a host of content in the peer-to-peer environment*, as recited in claim 1.

The Examiner cited several passages of Borella as disclosing that peer-to-peer network devices are discovered by other network devices on multiple networks. These passages describe discovery of edge routers by other edge routers. However, nothing in these passages, or elsewhere in Borella or Bommareddy, describes a peer-to-peer platform protocol for any peer nodes to cooperate to form peer groups, as required by claim 1. The limitation of a peer-to-peer platform protocol for any peer nodes to cooperate to form peer groups has never been addressed by the Examiner and is not found in the cited art. Therefore, a *prima facie* rejection has not been established.

2. The cited art clearly fails to teach or suggest that *each of the plurality of peer nodes is a host of content in the peer-to-peer environment; and one of the plurality of peer nodes is a relay peer node operable to: couple to the network outside the mechanism, and further operable to receive a message from a peer node outside the*

mechanism, wherein the message is for a peer node inside the mechanism; and relay the message to the peer node inside the mechanism.

The Examiner submitted that Borella discloses a message communicated via a router from one autonomous system to another autonomous system in column 6, line 61 – column 7, line 16, and in FIG. 1. However, the edge router of Borella is clearly not one of a plurality of peer nodes, according to the limitations recited in claim 1. For example, nothing in the cited art teaches or suggests that the edge router of Borella is a content host in the peer-to-peer environment, or that it is configured to cooperate with other peer nodes to form peer groups and share content in a peer-to-peer environment, nor would such functionality be inherent in a typical edge router. Therefore, the edge router of Borella does not teach or suggest the relay peer node of claim 1.

In the Response to Arguments section of the Final Action mailed June, 23, 2008, the Examiner submits that in a peer to peer architecture, each peer "is considered equal in terms of responsibilities, and each peer acts as a server or host to the other peers in a network." The Examiner quotes from Microsoft Computer Dictionary, fifth edition (without identifying the term for which the definition is provided), "a network of two or more computers that use the same program or type of program to communicate and share data. Each computer, or peer, is considered equal in terms of responsibilities and each acts as a server to the others in the network." The Examiner concludes, "Therefore, in a peer to peer architecture each peer acts as a client or a server." However, the Microsoft Computer Dictionary, fifth edition was published May 1, 2002 and is therefore not prior art to the present application. Moreover, the claims do not recite anything about peers acting as clients or servers. Appellants assert that the definition quoted by the Examiner does not inherently require that each peer is a host of content in any given peer-to-peer environment, as required by Appellants' claim. Appellants again assert that nothing in the cited art teaches or suggests that the edge router of Borella (which the Examiner equates with the relay peer of Appellants' claims) is a host of content in the peer-to-peer environment, nor would such functionality be inherent in a typical edge router. In fact, in Borella, each edge router is described as being associated with a host network device,

where the host device itself (not the edge router) serves as a host of content. The edge routers are merely used to forward packets from a host device in one autonomous network to a host device on another autonomous.

In the Response to Arguments section of the Final Action mailed June 23, 2008, the Examiner further submits that the Abstract of Borella teaches that the edge router is a peer network device, quoting, "The peer discovery protocol and methods allow error correction, encryption, compression and other "intelligent" services to be added to peer network devices such as edge routers." While this passage describes that edge routers are considered to be "peer network devices" by Borella, it does not teach or suggest anything about them being hosts of content, as required by Appellants claims. The intelligent services described as being added to edge routers do not include content hosting, but utilities that may be applied when routing messages between other devices that actually host content. It is not inherent, nor typical, that an edge router, whether considered a peer network device or not, is a host of content in the peer-to-peer environment, and nothing in the art of record describes an edge router as a host of content.

Therefore, Appellants again assert that the edge router of Borella clearly does not teach or suggest the relay peer node of claim 1.

3. The Examiner has failed to provide a valid reason for combining the references.

In remarks regarding claim 1, the Examiner stated, "Borella does not explicitly teach the mechanism as a firewall. However, Bommareddy teaches a firewall clustering for multiple network servers," and further submits that it would have been obvious to one of ordinary skill to incorporate the installation of a firewall in Borella's invention to protect the network from unauthorized access (citing Bommareddy, column 3, line 50 – column 5, line 7, and column 6, lines 37-67). However, simply adding a firewall in Borella's system clearly would not result in Appellants' claimed invention since neither reference has anything at all to do with an edge router that is a content host in the peer-to-

peer environment, nor with a peer-to-peer platform protocol for any peer nodes to cooperate to form peer groups.

Moreover, Borella already describes routing between the Internet and various Autonomous Systems, and also describes routing between various Autonomous Systems across the Internet, including these passages:

> Instead of using dedicated long-haul lines between sites, a VPN with Autonomous Systems connects each site through the Internet with an "edge router" or "firewall" typically capable of data encryption and/or data authentication.
>
> For small to medium size Autonomous Systems, internal routes to the Internet do not change very often. Incoming and outgoing Internet traffic typically passes through a single router called a "gateway" or "edge router."

These passages of Borella, and others, clearly describe partitioning mechanisms between Autonomous Systems (including firewalls and edge routers) and methods for routing messages across them (e.g., the intelligent edge router described therein). Therefore, there would be no reason to look to Bommareddy for another partitioning mechanism and/or method for routing messages across it, as suggested by the Examiner.

To establish a *prima facie* obviousness of a claimed invention, all claim limitations must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981, 180 U.S.P.Q. 580 (C.C.P.A. 1974), MPEP 2143.03. Obviousness cannot be established by combining or modifying the teachings of the prior art to produce the claimed invention, absent some reason to do so. *In re Bond,* 910 F. 2d 81, 834, 15 USPQ2d 1566, 1568 (Fed. Cir. 1990). As discussed above, the cited art does not teach or suggest all limitations of the currently pending claims, nor has the Examiner stated a valid reason to combine the cited references to teach them.

In the Response to Arguments section of the Final Action mailed June 23, 2008, the Examiner submits that KSR forecloses the argument that a specific teaching, suggestion, or motivation is required to support a finding of obviousness. However, as

stated in *KSR Int'l Co. v. Teleflex Inc.*, No. 04-1350, slip. op. at 14 (U.S. Apr. 30, 2007), "rejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal standard of obviousness." The Examiner must show that "there was an apparent reason to combine the known elements in the fashion claimed." *Id.* The Examiner's analysis "should be made explicit." *Id.* Mere conclusory statements are insufficient. The Examiner's stated reason to combine the reference lacks a rational underpinning since Borella already achieves the purpose stated by the Examiner as his reason to combine. Moreover, as shown above, the proposed combination would not result in Appellants' claimed invention.

For at least the reasons above, the rejection of claim 1 is unsupported by the cited art and removal thereof is respectfully requested.

Independent claim 20 includes limitations regarding the peer nodes being configured to cooperate to form peer groups, and a relay peer node that is one of a plurality of peer nodes having the limitations discussed above. Therefore, the arguments presented above apply with equal force to this claim, as well.

Claims 11, 12, 13, 30, 31, 32, 37, 43, 44, 51, 55, and 56:

1. Independent claims 11, 30, 37, and 51 include limitations regarding the peer nodes being configured to cooperate to form peer groups, and a relay peer node that is one of a plurality of peer nodes having the limitations discussed above. Therefore, the arguments presented above regarding claim 1 apply with equal force to these claims, as well.

2. The cited art clearly fails to teach or suggest *wherein the plurality of peer nodes comprises one or more relay peer nodes operable to couple to the network outside the mechanism; wherein each of the peer nodes inside the mechanism are operable to publish an advertisement on the one or more relay peer nodes; and wherein*

***each of the peer nodes outside the mechanism are operable to discover the advertisements for the peer nodes inside the mechanism published on the one or more relay peer nodes*, as recited in claim 11.**

The Examiner cited column 6, line 61 – column 7, line 17, and FIG. 1, of Borella as teaching these limitations. However, this citation does not describe publishing an advertisement on a relay peer node. First, as discussed above, the edge router of Borella does not meet the limitations recited for the relay peer node of Appellants' claims. In addition, the cited passage has nothing to do with publishing a peer node advertisement on a relay peer node. The only mention of "advertising" in Borella is the following, "TCP/IP SYN segment 64 typically contains a TCP 38 Option for advertising a Maximum Segment Size ("MSS") that the network device can accept. TCP 38 allows multiple configuration Options to be set." This clearly does not teach or suggest the above-referenced limitation recited in claim 11.

Appellant notes that the Examiner does not address the argument above in the Response to Arguments section of the Final Action mailed June 23, 2008.

3. The Examiner has failed to provide a valid reason for combining the references.

In remarks regarding claim 11, the Examiner again stated, "Borella does not explicitly teach the mechanism as a firewall. However, Bommareddy teaches a firewall clustering for multiple network servers," and further submits that it would have been obvious to one of ordinary skill to incorporate the installation of a firewall in Borella's invention to protect the network from unauthorized access (citing Bommareddy, column 3, line 50 – column 5, line 7, and column 6, lines 37-67). The Examiner's reason is insufficient for at least the reasons discussed above in regard to claim 1.

For at least the reasons above, the rejection of claim 11 is unsupported by the cited art and removal thereof is respectfully requested.

Independent claims 30, 37, and 51 recite limitations similar to those recited in claim 11 regarding the publishing of peer node advertisements on a relay peer node. Therefore, the arguments presented above apply with equal force to these claims, as well.

Claims 45, 49, 50, 57, 61, and 62:

1. Independent claims 45 and 57 include limitations regarding the peer nodes being configured to cooperate to form peer groups, and a relay peer node that is one of a plurality of peer nodes having the limitations discussed above. Therefore, the arguments presented above apply with equal force to these claims, as well.

2. The cited art clearly fails to teach or suggest *one of the relay peer nodes caching route information describing one or more routes to other peer nodes on the network, wherein the route information is configured for use in routing messages between peer nodes in the peer-to-peer environment, and wherein the cached route information includes ordered sequences of peer identifiers configured for use in routing messages to destination peer nodes*, as recited in claim 45.

The Examiner did not specifically address claim 45 in the Office Action mailed December 13, 2007. However, in remarks regarding dependent claim 5, the Examiner cited Borella (column 7, lines 37-51) as teaching caching route information; and in remarks regarding dependent claim 8, the Examiner cites Bommareddy (column 7, lines 1-51) as teaching the route information includes an ordered sequence of peer identifiers. However, the cited passages describe a discovery protocol for edge routers, and various functionality of a firewall cluster, respectively. Neither of the cited references describes anything about ordered sequences of peer identifiers cached as routing information on a relay peer node.

In the Response to Arguments section of the Final Action mailed June 23, 2008, the Examiner submits, "this feature is inherent on a network. A sending peer must

include the order of sequence of the intervening peer in order for peers to communicate with each other." **Appellants assert that the Examiner's remarks are completely unsupported in the cited art.** Appellants assert that there are many ways to route messages between peers, including those in which only the source and destination nodes are known up front, and not the intervening peers, as suggested by the Examiner. For example, in many systems, each intervening peer determines the next intervening peer to which a message should be sent on the fly, as the message is routed to its final destination. **There is nothing inherent about any particular system having such foreknowledge of intervening peers.** Furthermore, Appellants' claim does not merely recite the use of such routing information, but recites a relay peer node *caching route information describing one or more routes to other peer nodes on the network...* and *the cached route information includes ordered sequences of peer identifiers configured for use in routing messages to destination peer nodes.* **The caching of this specific routing information is clearly not inherent on a network, as suggested by the Examiner, much less the caching of such information on a relay peer node, according to the limitations recited in Appellants' claim.** "In relying upon the theory of inherency, the examiner must provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic necessarily flows from the teachings of the applied prior art." *Ex parte Levy*, 17 USPQ2d 1461, 1464 (Bd. Pat. App. & Inter. 1990) (emphasis in original).

3. The Examiner has failed to provide a valid reason for combining the references.

The Examiner does not provide any remarks at all regarding a reason to combine the references in teaching the above-referenced limitations of claim 45. As discussed above, the reasons stated with regard to claims 1 and 11 are not valid, and they have nothing to do with combining Borella and Bommareddy to teach the ordered sequences of peer identifiers recited in claim 45.

For at least the reasons stated above, the Examiner has failed to establish a *prima facie* obviousness of the claimed invention.

Independent claim 57 includes limitations similar to those recited in claim 45 and discussed above. Therefore, the arguments presented above apply with equal force to this claim as well.

Dependent claim 2:

1. The cited art clearly fails to teach or suggest *wherein the relay peer node is further operable to: receive a message from the peer node inside the mechanism, wherein the message is for the peer node outside the mechanism; and relay the message to the peer node outside the mechanism.*

The Examiner cites Bommareddy as teaching these limitations in col. 3, line 50 – col. 5, line 7, and in col. 6, lines 37-67. These passages describe the firewall clustering system of Bommareddy, which includes flow controllers on either side of each firewall. However, the flow controllers of Bommareddy are not relay peer nodes, according to the limitations of Appellants' claim 1, from which claim 2 depends. For example, nothing in Bommareddy describes them as hosting content in the environment, or implementing peer-to-peer platform protocols for peer discovery, forming peer groups, etc.

2. The Examiner has failed to provide a valid reason to combine the references.

The Examiner does not includes any specific remarks regarding combining the references to teach the limitations of claim 2. Furthermore, as discussed above, the Examiner's remarks directed to claim 1 (from which claim 2 depends) do not provide a valid reason to combine the references.

For at least the reasons above, the rejection of claim 2 is unsupported by the cited art and removal thereof is respectfully requested.

Dependent claims 5, 15, 21, 34, 38, 48, and 52:

1. The cited art clearly fails to teach or suggest *wherein the relay peer node is further operable to cache route information describing one or more routes to peer nodes on the network*, as recited in claim 5.

The Examiner cites Borella as teaching this limitation in column 7, lines 37-51. This passage describes that once two edge routers have discovered each other, they may establish a two-way peer-to-peer "data flow," such as another TCP channel or UDP channel between themselves and transmit information, which may include "intelligent" routing capabilities. The capabilities of intelligent routers described in Borella include features such as encryption, error correction, and compression. Therefore, this passage clearly teaches absolutely nothing about caching route information describing one or more routes to peer nodes on the network.

2. The Examiner has failed to provide a valid reason to combine the references.

The Examiner does not includes any specific remarks regarding combining the references to teach the limitations of claim 5. Furthermore, as discussed above, the Examiner's remarks directed to claim 1 (from which claim 5 depends) do not provide a valid reason to combine the references.

For at least the reasons above, the rejection of claim 5 is unsupported by the cited art and removal thereof is respectfully requested.

Claims 15, 21, 34, 38, 48, and 52 include limitations similar to those recited in claim 5. Therefore, the arguments presented above apply with equal force to these claims, as well.

Dependent claims 6, 16, 22, 35, and 60:

1. The cited art clearly fails to teach or suggest *the relay peer is operable to use the cached route information to route the received message to the peer node inside the mechanism*, as recited in claim 6.

The Examiner cites Bommareddy, column 7, lines 1-50 as teaching this limitation. This passage describes the firewall clustering system of Bommareddy, which includes flow controllers on either side of each firewall. However, the flow controllers of Bommareddy are not relay peer nodes, according to the limitations of Appellants' claim 1, from which claim 2 depends. For example, nothing in Bommareddy describes them as hosting content in the environment, or implementing peer-to-peer platform protocols for peer discovery, forming peer groups, etc. In addition, there is nothing in this passage, or elsewhere in the cited art, that teaches or suggests a relay peer caching route information, much less a relay peer using cached route information to route a message from a peer node outside a partitioning mechanism to a peer node inside the mechanism, as required by claim 6.

2. The Examiner has failed to provide a valid reason to combine the references.

The Examiner does not includes any specific remarks regarding combining the references to teach the limitations of claim 6. Furthermore, as discussed above, the Examiner's remarks directed to claim 1 (from which claim 5, and thus claim 6, depends) do not provide a valid reason to combine the references.

For at least the reasons above, the rejection of claim 6 is unsupported by the cited art and removal thereof is respectfully requested.

Claims 16, 22, 35, and 60 include limitations similar to those recited in claim 6. Therefore, the arguments presented above apply with equal force to these claims, as well.

Dependent claims 7, 24, 40, 46, 53, and 58:

1. The cited art clearly fails to teach or suggest *wherein the relay peer node is further operable to: receive a query requesting route information to one of the plurality of peer nodes from another one of the plurality of peer nodes, wherein the query is formatted according to an endpoint routing protocol; and send the requested route information to the requesting peer node in accordance with the endpoint routing protocol*, as recited in claim 7.

The Examiner cites the Abstract of Borella as teaching these limitations. Borella's abstract describes a method for edge routers to discover each other. This method includes a first edge router sending a peer discovery request to other peer network devices (e.g., other edge routers), and once another edge router is discovered, establishing a two-way peer-to-peer data flow. However, there is nothing in this passage, or elsewhere in the cited art, that describes a relay node receiving a query requesting route information to a particular peer node from another peer node, as required by claim 7, much less that such a query is formatted according to an endpoint routing protocol, or that the requested route information is sent to the requesting peer according to the endpoint routing protocol.

2. The Examiner has failed to provide a valid reason to combine the references.

The Examiner does not includes any specific remarks regarding combining the references to teach the limitations of claim 7. Furthermore, as discussed above, the

Examiner's remarks directed to claim 1 (from which claim 5, and thus claim 7, depends) do not provide a valid reason to combine the references.

For at least the reasons above, the rejection of claim 7 is unsupported by the cited art and removal thereof is respectfully requested.

Claims 24, 40, 46, 53, and 58 include limitations similar to those recited in claim 7. Therefore, the arguments presented above apply with equal force to these claims, as well.

Dependent claims 8, 17, 23, and 39:

1. The cited art clearly fails to teach or suggest *wherein the route information includes an ordered sequence of peer identifiers configured for use in routing a message to a destination peer node*, as recited in claim 8.

The Examiner again cites Bommareddy, column 7, lines 1-50 as teaching this limitation. This passage describes the firewall clustering system of Bommareddy, which includes flow controllers on either side of each firewall. As noted above, the flow controllers of Bommareddy are not relay peer nodes, according to the limitations of Appellants' claims. In addition, there is nothing in this passage, or elsewhere in the cited art, that teaches or suggests a relay peer caching route information, much less that this cached route information includes an ordered sequence of peer identifiers for use in routing a message to a destination peer, as required by claim 8. As discussed above in remarks directed to claims 45 and 57, the cited art does not teach or suggest such route information, nor is the caching of such information inherent in a network, as suggested by the Examiner.

2. The Examiner has failed to provide a valid reason to combine the references.

The Examiner does not includes any specific remarks regarding combining the references to teach the limitations of claim 8. Furthermore, as discussed above, the Examiner's remarks directed to claim 1 (from which claim 5, and thus claim 8, depends) do not provide a valid reason to combine the references.

For at least the reasons above, the rejection of claim 8 is unsupported by the cited art and removal thereof is respectfully requested.

Claims 17, 23, and 39 include limitations similar to those recited in claim 8. Therefore, the arguments presented above apply with equal force to these claims, as well.

Dependent claims 9, 18, 25, 36, 41, and 54:

1. The cited art clearly fails to teach or suggest *wherein the message includes route information, and wherein, to relay the message to the peer node inside the mechanism, the relay peer is operable to use the route information included in the message to route the received message to the peer node inside the mechanism*, as recited in claim 9.

The Examiner again cites Bommareddy, column 7, lines 1-50 as teaching this limitation. This passage describes the firewall clustering system of Bommareddy, which includes flow controllers on either side of each firewall. As noted above, the flow controllers of Bommareddy are not relay peer nodes, according to the limitations of Appellants' claims. In addition, there is nothing in this passage, or elsewhere in the cited art, that teaches or suggests a message (being routed from a peer node outside a partitioning mechanism to a destination peer node inside the partitioning mechanism) including route information, much less that a relay node uses this route information for use in routing the message to the destination peer, as required by claim 9.

2. The Examiner has failed to provide a valid reason to combine the references.

The Examiner does not includes any specific remarks regarding combining the references to teach the limitations of claim 9. Furthermore, as discussed above, the Examiner's remarks directed to claim 1 (from which claim 9 depends) do not provide a valid reason to combine the references.

For at least the reasons above, the rejection of claim 9 is unsupported by the cited art and removal thereof is respectfully requested.

Claims 18, 25, 36, 41, and 54 include limitations similar to those recited in claim 9. Therefore, the arguments presented above apply with equal force to these claims, as well.

Dependent claims 10, 19, 26, and 42:

1. The cited art clearly fails to teach or suggest *wherein the route information includes an ordered sequence of peer identifiers configured for use in routing a message to a destination peer node*, as recited in claim 10.

The Examiner again cites Bommareddy, column 7, lines 1-50 as teaching this limitation. This passage describes the firewall clustering system of Bommareddy, which includes flow controllers on either side of each firewall. As noted above, the flow controllers of Bommareddy are not relay peer nodes, according to the limitations of Appellants' claims. In addition, there is nothing in this passage, or elsewhere in the cited art, that teaches or suggests a message including route information, much less that this route information includes an ordered sequence of peer identifiers for use in routing a message to a destination peer, as required by claim 10. As discussed above in remarks directed to claims 45 and 57, the cited art does not teach or suggest such route information at all, nor is the use of such information inherent in a network, as suggested by the Examiner.

2. The Examiner has failed to provide a valid reason to combine the references.

The Examiner does not includes any specific remarks regarding combining the references to teach the limitations of claim 10. Furthermore, as discussed above, the Examiner's remarks directed to claim 1 (from which claim 9, and thus claim 10, depends) do not provide a valid reason to combine the references.

For at least the reasons above, the rejection of claim 10 is unsupported by the cited art and removal thereof is respectfully requested.

Claims 19, 26, and 42 include limitations similar to those recited in claim 10. Therefore, the arguments presented above apply with equal force to these claims, as well.

Dependent claims 14 and 33:

1. The cited art clearly fails to teach or suggest *wherein the one or more relay peer nodes are further operable to relay messages between the peer nodes outside the mechanism and the peer nodes inside the mechanism*, as recited in claim 14.

The Examiner merely references FIG. 1 of Borella as teaching this limitation, without including any remarks at all. FIG. 1 illustrates two autonomous systems, each connected to the Internet through an edge router. However, as discussed above in remarks directed to claim 1, the edge routers of Borella are not relay peer nodes, according to the limitations of Appellants' claims. For example, nothing in Borella describes them as hosting content in the environment, or implementing peer-to-peer platform protocols for forming peer groups, etc. Therefore, Borella does not teach or suggest the limitations of relay peer nodes recited in claim 14.

2. The Examiner has failed to provide a valid reason to combine the references.

The Examiner does not includes any specific remarks regarding combining the references to teach the limitations of claim 14. Furthermore, as discussed above, the Examiner's remarks directed to claim 11 (from which claim 14 depends) do not provide a valid reason to combine the references.

For at least the reasons above, the rejection of claim 14 is unsupported by the cited art and removal thereof is respectfully requested.

Claim 33 includes limitations similar to those recited in claim 14. Therefore, the arguments presented above apply with equal force to this claim, as well.

Dependent claims 47 and 59:

1. The cited art clearly fails to teach or suggest *one of the plurality of peer nodes inside a partitioning mechanism on the network publishing an advertisement on the relay peer node, wherein the relay peer node is outside the partitioning mechanism, and wherein peer nodes inside the partitioning mechanism cannot directly communicate with peer nodes outside the partitioning mechanism; one of the plurality of peer nodes outside the partitioning mechanism discovering the advertisement to the peer node inside the partitioning mechanism on the relay peer node; and the peer node outside the partitioning mechanism and the peer node inside the partitioning mechanism exchanging messages through the relay peer node,* as recited in claim 47.

The Examiner did not specifically address claim 47 in the Office Action mailed December 13, 2007. However, in remarks regarding claim 11, the Examiner cited column 6, line 61 – column 7, line 17, and FIG. 1, of Borella as teaching these limitations. As discussed above, this citation does not describe publishing an advertisement on a relay peer node, as the Examiner suggests. First, the edge router of Borella does not meet the limitations recited for the relay peer node of Appellants'

claims. In addition, the cited passage has nothing to do with publishing a peer node advertisement on a relay peer node. The only mention of "advertising" in Borella is the following, "TCP/IP SYN segment 64 typically contains a TCP 38 Option for advertising a Maximum Segment Size ("MSS") that the network device can accept. TCP 38 allows multiple configuration Options to be set." **This clearly does not teach or suggest the limitations recited in claim 47.**

Appellant notes that the Examiner does not address the argument above in the Response to Arguments section of the Final Action mailed June 23, 2008.

2. The Examiner has failed to provide a valid reason to combine the references.

The Examiner does not includes any specific remarks regarding combining the references to teach the limitations of claim 47 (or claim 45, from which it depends). However, as discussed above, the Examiner's remarks directed to claims 1 and 11 do not provide a valid reason to combine the references.

For at least the reasons above, the rejection of claim 47 is unsupported by the cited art and removal thereof is respectfully requested.

Claim 59 includes limitations similar to those recited in claim 47. Therefore, the arguments presented above apply with equal force to this claim, as well.

CONCLUSION

For the foregoing reasons, it is submitted that the Examiner's rejection of claims 1-62 was erroneous, and reversal of his decision is respectfully requested.

The Commissioner is authorized to charge any fees that may be due to Meyertons, Hood, Kivlin, Kowert, & Goetzel, P.C. Deposit Account No. 501505/5681-07100/RCK. This Appeal Brief is submitted with a return receipt postcard.

Respectfully submitted,

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Date: October 27, 2008

VIII. CLAIMS APPENDIX

The claims on appeal are as follows.

1. A peer computing system, comprising:

a plurality of peer nodes operable to couple to a network, wherein the plurality of peer nodes are configured to implement a peer-to-peer environment on the network according to a peer-to-peer platform comprising one or more peer-to-peer platform protocols for enabling the plurality of peer nodes to discover each other, communicate with each other, and cooperate with each other to form peer groups and share content in the peer-to-peer environment, and wherein each of the plurality of peer nodes is a host of content in the peer-to-peer environment;

wherein the plurality of peer nodes are partitioned by a mechanism on the network into a set of one or more peer nodes inside the mechanism and a set of one or more peer nodes outside the mechanism, wherein peer nodes on opposite sides of the mechanism cannot communicate directly with each other on the network;

wherein one of the plurality of peer nodes is a relay peer node operable to couple to the network outside the mechanism, and further operable to:

receive a message from a peer node outside the mechanism, wherein the message is for a peer node inside the mechanism; and

relay the message to the peer node inside the mechanism.

2. The peer computing system as recited in claim 1, wherein the relay peer node is further operable to:

receive a message from the peer node inside the mechanism, wherein the message is for the peer node outside the mechanism; and

relay the message to the peer node outside the mechanism.

3. The peer computing system as recited in claim 1, wherein the mechanism is a firewall.

4. The peer computing system as recited in claim 1, wherein the mechanism is a Network Address Translation (NAT) gateway.

5. The peer computing system as recited in claim 1, wherein the relay peer node is further operable to cache route information describing one or more routes to peer nodes on the network.

6. The peer computing system as recited in claim 5, wherein, to relay the message to the peer node inside the mechanism, the relay peer is operable to use the cached route information to route the received message to the peer node inside the mechanism.

7. The peer computing system as recited in claim 5, wherein the relay peer node is further operable to:

receive a query requesting route information to one of the plurality of peer nodes from another one of the plurality of peer nodes, wherein the query is formatted according to an endpoint routing protocol; and

send the requested route information to the requesting peer node in accordance with the endpoint routing protocol.

8. The peer computing system as recited in claim 5, wherein the route information includes an ordered sequence of peer identifiers configured for use in routing a message to a destination peer node.

9. The peer computing system as recited in claim 1, wherein the message includes route information, and wherein, to relay the message to the peer node inside the mechanism, the relay peer is operable to use the route information included in the message to route the received message to the peer node inside the mechanism.

10. The peer computing system as recited in claim 9, wherein the route information includes an ordered sequence of peer identifiers configured for use in routing a message to a destination peer node.

11. A peer computing system, comprising:

a plurality of peer nodes operable to couple to a network, wherein the plurality of peer nodes are configured to implement a peer-to-peer environment on the network according to a peer-to-peer platform comprising one or more peer-to-peer platform protocols for enabling the plurality of peer nodes to discover each other, communicate with each other, and cooperate with each other to form peer groups and share content in the peer-to-peer environment, and wherein each of the plurality of peer nodes is a host of content in the peer-to-peer environment;

wherein the plurality of peer nodes are partitioned by a mechanism on the network into a set of one or more peer nodes inside the mechanism and a set of one or more peer nodes outside the mechanism, wherein peer nodes on opposite sides of the mechanism cannot communicate directly with each other on the network;

wherein the plurality of peer nodes comprises one or more relay peer nodes operable to couple to the network outside the mechanism;

wherein each of the peer nodes inside the mechanism are operable to publish an advertisement on the one or more relay peer nodes; and

wherein each of the peer nodes outside the mechanism are operable to discover the advertisements for the peer nodes inside the mechanism published on the one or more relay peer nodes.

12. The peer computing system as recited in claim 11, wherein the mechanism is a firewall.

13. The peer computing system as recited in claim 11, wherein the mechanism is a Network Address Translation (NAT) gateway.

14. The peer computing system as recited in claim 11, wherein the one or more relay peer nodes are further operable to relay messages between the peer nodes outside the mechanism and the peer nodes inside the mechanism.

15. The peer computing system as recited in claim 14, wherein the relay peer node is further operable to cache route information describing one or more routes to peer nodes on the network.

16. The peer computing system as recited in claim 15, wherein, to relay the messages between the peer nodes, the relay peer is operable to use the cached route information to route the messages to the peer nodes inside the mechanism.

17. The peer computing system as recited in claim 15, wherein the route information includes an ordered sequence of peer identifiers configured for use in routing a message to a destination peer node.

18. The peer computing system as recited in claim 14, wherein the message includes route information, and wherein, to relay the messages between the peer nodes, the relay peer is operable to use the route information included in the messages to route the messages to the peer nodes inside the mechanism.

19. The peer computing system as recited in claim 18, wherein the route information includes an ordered sequence of peer identifiers configured for use in routing a message to a destination peer node.

20. A peer node, comprising:

a network interface for coupling to a network;

a memory comprising program instructions, wherein the program instructions are executable within the peer node to, according to one or more peer-to-peer platform protocols:

discover other peer nodes on the network;

communicate with other peer nodes on the network;

cooperate with other peer nodes on the network to form peer groups;

host shared content on the network;

receive a message from a source peer node on the network intended for a destination peer node, wherein the source peer node and the destination peer node cannot communicate directly with each other on the network; and

relay the message to the destination peer node.

21. The peer node as recited in claim 20, wherein the program instructions are further executable to cache route information describing one or more routes to other peer nodes on the network.

22. The peer node as recited in claim 21, wherein, to relay the message to the destination peer node, the program instructions are further executable to:

locate route information to the destination peer node in the cached route information; and

route the message to the destination peer node using the located route information.

23. The peer node as recited in claim 21, wherein the cached route information includes ordered sequences of peer identifiers configured for use in routing messages to destination peer nodes.

24. The peer computing system as recited in claim 21, wherein the relay peer node is further operable to:

receive a query requesting route information to a peer node from another peer node, wherein the query is formatted according to an endpoint routing protocol; and

send the requested route information to the requesting peer node in accordance with the endpoint routing protocol.

25. The peer node as recited in claim 20, wherein the message includes route information, and wherein, to relay the message to the destination peer node, the program

instructions are further executable to route the received message to the destination peer node using the route information included in the message.

26. The peer node as recited in claim 25, wherein the route information includes an ordered sequence of peer identifiers configured for use in routing messages to the destination peer node.

27. The peer node as recited in claim 20, wherein the source peer node is on the outside of a partitioning mechanism on the network, and wherein the destination peer node is on the inside of the partitioning mechanism.

28. The peer node as recited in claim 27, wherein the partitioning mechanism is a firewall.

29. The peer node as recited in claim 27, wherein the partitioning mechanism is a Network Address Translation (NAT) gateway.

30. A peer computing system, comprising:

a plurality of peer nodes operable to couple to a network;

means for the plurality of peer nodes to discover each other, communicate with each other, and cooperate with each other to form peer groups and share content in a peer-to-peer environment on the network;

means for partitioning the plurality of peer nodes on the network into a set of one or more peer nodes inside the partition and a set of one or more peer nodes outside the partition, wherein peer nodes on opposite sides of the partition cannot communicate directly with each other on the network;

means for the peer nodes inside the partition to advertise themselves outside the partition; and

means for the peer nodes outside the mechanism to discover the advertised peer nodes inside the partition;

wherein the means for the peer nodes inside the partition to advertise themselves comprises a relay peer node outside the partition, wherein the relay peer node comprises means for publishing advertisements for the peer nodes inside the partition, and wherein the relay peer node is one of the plurality of peer nodes.

31. The peer computing system as recited in claim 30, wherein the partition is a firewall.

32. The peer computing system as recited in claim 30, wherein the partition is a Network Address Translation (NAT) gateway.

33. The peer computing system as recited in claim 30, further comprising means for relaying messages between the peer nodes outside the mechanism and the peer nodes inside the mechanism.

34. The peer computing system as recited in claim 33, wherein the means for relaying messages comprises a relay peer node, wherein the relay peer node comprises means for caching route information describing one or more routes to peer nodes on the network.

35. The peer computing system as recited in claim 34, wherein, to relay the messages between the peer nodes, the peer computing system further comprises means for using the cached route information to route the messages to the peer nodes inside the mechanism.

36. The peer computing system as recited in claim 33, wherein the message includes route information, and wherein, to relay the messages between the peer nodes, the relay peer further comprises means for using the route information included in the messages to route the messages to the peer nodes inside the mechanism.

37. A method, comprising:

a plurality of peer nodes implementing a peer-to-peer environment on a network according to a peer-to-peer platform, wherein the peer-to-peer platform comprises one or more peer-to-peer platform protocols for enabling the plurality of peer nodes to discover each other, communicate with each other, and cooperate with each other to form peer groups and share content in the peer-to-peer environment, and wherein each of the plurality of peer nodes is a host of content in the peer-to-peer environment;

one of the plurality of peer nodes inside a partitioning mechanism on the network publishing an advertisement on a relay peer node outside the partitioning mechanism, wherein peer nodes inside the partitioning mechanism cannot directly communicate with peer nodes outside the partitioning mechanism, and wherein the relay peer node is one of the plurality of peer nodes;

one of the plurality of peer nodes outside the partitioning mechanism discovering the advertisement to the peer node inside the partitioning mechanism on the relay peer node;

the peer node outside the partitioning mechanism sending a message [[to]] intended for the peer node inside the partitioning mechanism to the relay peer node; and

the relay peer node relaying the message to the peer node inside the partitioning mechanism.

38. The method as recited in claim 37, further comprising the relay peer node caching route information describing one or more routes to other peer nodes on the network, wherein the route information is configured for use in routing messages between peer nodes in the peer-to-peer environment.

39. The method as recited in claim 38, wherein the cached route information includes ordered sequences of peer identifiers configured for use in routing messages to destination peer nodes.

40. The method as recited in claim 38, further comprising:

the relay peer node receiving a query requesting route information to a peer node from another peer node, wherein the query is formatted according to an endpoint routing protocol; and

the relay peer node sending the requested route information to the requesting peer node in accordance with the endpoint routing protocol.

41. The method as recited in claim 37, wherein the message includes route information, and wherein, in said relaying the message, the method further comprises routing the message to the peer node inside the partitioning mechanism using the route information included in the message.

42. The method as recited in claim 41, wherein the route information includes an ordered sequence of peer identifiers.

43. The method as recited in claim 37, wherein the partitioning mechanism is a firewall.

44. The method as recited in claim 37, wherein the partitioning mechanism is a Network Address Translation (NAT) gateway.

45. A method, comprising:

a plurality of peer nodes implementing a peer-to-peer environment on a network according to a peer-to-peer platform, wherein the peer-to-peer platform comprises one or more peer-to-peer platform protocols for enabling the plurality of peer nodes to discover each other, communicate with each other, and cooperate with each other to form peer groups and share content in the peer-to-peer environment, and wherein each of the plurality of peer nodes is a host of content in the peer-to-peer environment;

wherein one or more of the plurality of peer nodes are relay peer nodes; and

one of the relay peer nodes caching route information describing one or more routes to other peer nodes on the network, wherein the route information is configured for use in routing messages between peer nodes in the peer-to-peer environment, and wherein the cached route information includes ordered sequences of peer identifiers configured for use in routing messages to destination peer nodes.

46. The method as recited in claim 45, further comprising:

the relay peer node receiving a query requesting route information to a peer node from another peer node, wherein the query is formatted according to an endpoint routing protocol; and

the relay peer node sending the requested route information to the requesting peer node in accordance with the endpoint routing protocol.

47. The method as recited in claim 45, further comprising:

one of the plurality of peer nodes inside a partitioning mechanism on the network publishing an advertisement on the relay peer node, wherein the relay peer node is outside the partitioning mechanism, and wherein peer nodes inside the partitioning mechanism cannot directly communicate with peer nodes outside the partitioning mechanism;

one of the plurality of peer nodes outside the partitioning mechanism discovering the advertisement to the peer node inside the partitioning mechanism on the relay peer node; and

the peer node outside the partitioning mechanism and the peer node inside the partitioning mechanism exchanging messages through the relay peer node.

48. The method as recited in claim 47, further comprising the relay peer node using the cached route information to route the messages to the destination peer node.

49. The method as recited in claim 47, wherein the partitioning mechanism is a firewall.

50. The method as recited in claim 47, wherein the partitioning mechanism is a Network Address Translation (NAT) gateway.

51. A computer-readable storage medium storing software instructions computer-executable to implement:

a plurality of peer nodes implementing a peer-to-peer environment on a network according to a peer-to-peer platform, wherein the peer-to-peer platform comprises one or more peer-to-peer platform protocols for enabling the

plurality of peer nodes to discover each other, communicate with each other, and cooperate with each other to form peer groups and share content in the peer-to-peer environment, and wherein each of the plurality of peer nodes is a host of content in the peer-to-peer environment;

one of the plurality of peer nodes inside a partitioning mechanism on the network publishing an advertisement on a relay peer node outside the partitioning mechanism, wherein peer nodes inside the partitioning mechanism cannot directly communicate with peer nodes outside the partitioning mechanism, and wherein the relay peer node is one of the plurality of peer nodes;

one of the plurality of peer nodes outside the partitioning mechanism discovering the advertisement to the peer node inside the partitioning mechanism on the relay peer node;

the peer node outside the partitioning mechanism sending a message [[to]] intended for the peer node inside the partitioning mechanism to the relay peer node; and

the relay peer node relaying the message to the peer node inside the partitioning mechanism.

52. The storage medium as recited in claim 51, wherein the software instructions are further executable to implement the relay peer node caching route information describing one or more routes to other peer nodes on the network, wherein the route information is configured for use in routing messages between peer nodes in the peer-to-peer environment.

53. The storage medium as recited in claim 52, wherein the software instructions are further executable to implement:

the relay peer node receiving a query requesting route information to a peer node from another peer node, wherein the query is formatted according to an endpoint routing protocol; and

the relay peer node sending the requested route information to the requesting peer node in accordance with the endpoint routing protocol.

54. The storage medium as recited in claim 51, wherein the message includes route information, and wherein, in said relaying the message, the software instructions are further executable to implement routing the message to the peer node inside the partitioning mechanism using the route information included in the message.

55. The storage medium as recited in claim 51, wherein the partitioning mechanism is a firewall.

56. The storage medium as recited in claim 51, wherein the partitioning mechanism is a Network Address Translation (NAT) gateway.

57. A computer-readable storage medium storing software instructions computer-executable to implement:

a plurality of peer nodes implementing a peer-to-peer environment on a network according to a peer-to-peer platform, wherein the peer-to-peer platform comprises one or more peer-to-peer platform protocols for enabling the plurality of peer nodes to discover each other, communicate with each other, and cooperate with each other to form peer groups and share content in the peer-to-peer environment, and wherein each of the plurality of peer nodes is a host of content in the peer-to-peer environment;

one or more of the plurality of peer nodes implementing a relay service in accordance with the peer-to-peer platform to perform as relay peer nodes; and

one of the relay peer nodes caching route information describing one or more routes to other peer nodes on the network, wherein the route information is configured for use in routing messages between peer nodes in the peer-to-peer environment, and wherein the cached route information includes ordered sequences of peer identifiers configured for use in routing messages to destination peer nodes.

58. The storage medium as recited in claim 57, wherein the software instructions are further executable to implement:

the relay peer node receiving a query requesting route information to a peer node from another peer node, wherein the query is formatted according to an endpoint routing protocol; and

the relay peer node sending the requested route information to the requesting peer node in accordance with the endpoint routing protocol.

59. The storage medium as recited in claim 57, wherein the software instructions are further executable to implement:

one of the plurality of peer nodes inside a partitioning mechanism on the network publishing an advertisement on the relay peer node, wherein the relay peer node is outside the partitioning mechanism, and wherein peer nodes inside the partitioning mechanism cannot directly communicate with peer nodes outside the partitioning mechanism;

one of the plurality of peer nodes outside the partitioning mechanism discovering the advertisement to the peer node inside the partitioning mechanism on the relay peer node; and

the peer node outside the partitioning mechanism and the peer node inside the partitioning mechanism exchanging messages through the relay peer node.

60. The storage medium as recited in claim 59, wherein the software instructions are further executable to implement the relay peer node using the cached route information to route the messages to the destination peer node.

61. The storage medium as recited in claim 59, wherein the partitioning mechanism is a firewall.

62. The storage medium as recited in claim 59, wherein the partitioning mechanism is a Network Address Translation (NAT) gateway.

IX. EVIDENCE APPENDIX

No evidence submitted under 37 CFR §§ 1.130, 1.131 or 1.132 or otherwise entered by the Examiner is relied upon in this appeal.

X. RELATED PROCEEDINGS APPENDIX

There are no related proceedings.